

## FORMING METHOD OF SILICON OXIDE FILM

**Publication number:** JP11016901 (A)

**Publication date:** 1999-01-22

**Inventor(s):** KASHIWAGI AKIHIDE; KIMURA HIDEKI; TANAKA NOBUFUMI;  
KATAOKA TOYOTAKA; SUZUKI ATSUSHI

**Applicant(s):** SONY CORP

**Classification:**

- **international:** *H01L29/78; H01L21/316; H01L21/336; H01L29/66; H01L21/02;*  
(IPC1-7): H01L21/316; H01L21/336; H01L29/78

- **European:**

**Application number:** JP19970163759 19970620

**Priority number(s):** JP19970163759 19970620

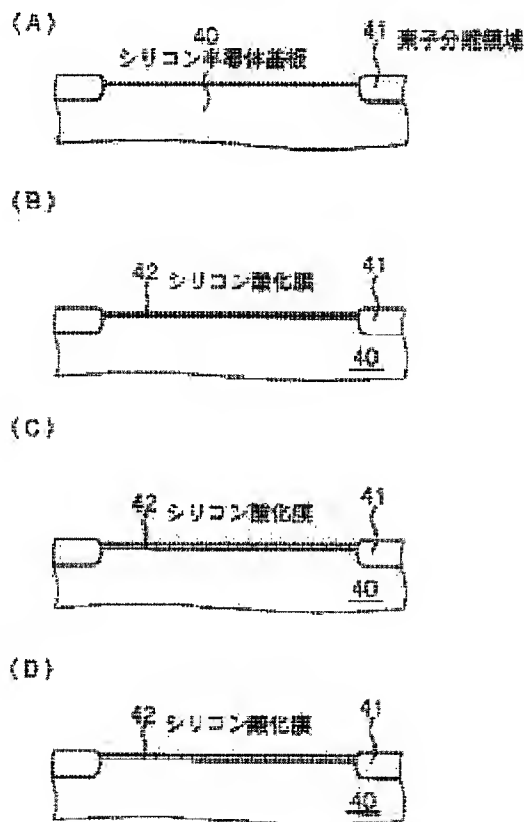
**Also published as:**

JP3952542 (B2)

### Abstract of JP 11016901 (A)

**PROBLEM TO BE SOLVED:** To enhance the uniformity of inner film thickness on a silicon semiconductor substrate by a method wherein a silicon oxide film is formed on the surface of a silicon layer by oxidizing process using a dry oxygen gas containing hydrogen chloride in the state of holding the atmosphere at a temperature not to desorb the silicon atoms from the surface of the silicon layer.

**SOLUTION:** A silicon oxide film 42 is formed on the surface of a silicon layer by oxidizing process using a dry oxygen gas containing a hydrogen chloride in the state of holding an atmosphere at a temperature not to desorb the silicon atoms from the surface of silicon semiconductor substrate 40. Next, the atmospheric temperature is raised up to a specific temperature so as to further form the silicon oxide film by the oxidizing process using a wet gas in the state of holding this temperature for heat-treating the silicon oxide film 42. Through these procedures, the production of dry spot on the surface of the silicon layer can be avoided while enabling the very thin oxide film having high uniformity in the film thickness to be formed without fail.



Data supplied from the esp@cenet database — Worldwide